REMARKS/ARGUMENTS

The claims in the application are 1-40. Claims 1-6, 8-14, 16-22, 24-30, 32-38 and 40 stand withdrawn from consideration in the Official Action as drawn to inventions distinct from the elected invention.

Claim 7 is amended to recite that the homogenized hyphae of the Matsutake mushroom are first aseptically cultured in a liquid medium "containing a carbon source". Such a medium is "one generally needed for maintaining a symbiotic fungus in the art", page 8, in the paragraph at line 20, and one generally accepted as containing a carbon source. A medium of that type is used as a source to produce "a modified liquid medium" which does not contain a carbon source by removing its carbon source, please see the paragraph at line 8, page 21 of the specification. Clearly, the medium is disclosed to contain a carbon source.

The Claim 7 is also amended to recite that the final culturing step, with employment of the active principle, occurs in a medium in which Matsutake hyphae can grow. Basis appears in the specification in the first sentence of the paragraph at page 15, line 9. Such a medium must inherently contain a carbon source.

The Claim 7 is also amended to clarify the relationship of the steps and the various recited materials.

Claim 7 is further amended to more specifically define the homogenizing action step basis appearing in the paragraph bridging pages 19 and 20 and in the paragraph at page 20, line 9. The modifier "substantially" corresponds to the word "roughly" at page 20, line 10.

THE DETAILED ACTION

Finality of the Election/Restriction requirement is acknowledged.

Reconsideration and withdrawal of the rejection of Claims 7, 15, 23, 31 and 39 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to

particularly point out and distinctly claim the subject matter which Applicant regards as the invention are requested.

Currently amended Claim 7 clearly recites whether or not the culture medium or culture substrate used in each step contains a carbon source.

This is believed to overcome the criticism that "It is unclear what is or is not in the culture medium at the different steps of the invention."

Applicants are not attempting to allege that effective growth can occur with no carbon source.

Reconsideration and withdrawal of the rejection of Claims 7, 15, 23, 31 and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mizsushi (Patent Abstracts of Japan, 07135847, 1995), Hirao (Patent Abstracts of Japan, 55118389, 1980) and Seiichi (Patent Abstracts of Japan, 01101880, 1989) in view of Holtz (4420319) are requested.

(a) Applicants Preliminarily Point out the Following With Regard to the Subject Invention:

Currently amended Claim 7 recites a method for forming an artificial Shiro or Matsutake, which comprises the three steps of:

1) inducing growth of Matsutake hyphae by aseptically homogenizing a colony of Matsutake hyphae and aseptically culturing the obtained hyphae in a liquid nutrient medium containing a carbon source;

2) preparing an inoculum of Matsutake hyphae by aseptically replacing the liquid nutrient medium with a liquid nutrient medium containing no carbon source after said inducing; and

3) culturing aseptically the obtained inoculum of the Matsutake hyphae in a culture substrate containing a carbon source and at least one active principle that is selected from a surfactant and a natural vegetable oil.

Currently amended Claim 7 comprises three steps. In the steps 1) and 2) an inoculum of actively growing Matsutake hyphae is prepared, and the step 3), the good growth of Matsutake hyphae is induced with use of an active principle, thereby forming an artificial Shiro of Matsutake. Thus, the method of the present invention is characterized in that the growth of Matsutake hyphae is promoted in each of the three steps.

(b) Concerning the Difference Between the Present Invention and the Applied References:

None of the applied references disclose or even suggests the preparation of "Matsutake hypha cells having the capability to grow rapidly" by homogenizing the colony of Matsutake hyphae, as recited in the step 1) of the present invention.

The Matsutake hyphae cells separated by the homogenization become able to have a higher efficiency of nutrient intake from the nutrient medium containing a carbon source, as compared to the case of hyphae cells in a colony state; therefore with the homogenization, the growth of the hyphae cells can be activated. Please see the subject specification at page 20, lines 9-18).

Further, none of the cited references discloses or even suggests the replacement of the liquid nutrient medium containing a carbon source with a liquid nutrient medium containing no carbon source, as recited in the step 2) of the present invention. The Official Action agrees that the step 2) of the present invention is not disclosed in any of the references. However, the Official Action also states that the criticality of this step is not clear.

(c) With Regard to the Criticality of the Step 2):

Applicants state that they consider that the advantageous effect of the present invention obtained by the step 2) explained as follows. The hyphae of Matsutake fungus, which is a symbiotic fungus, grow utilizing a photosynthetic product (carbon source) of a host tree, and therefore if Matsutake hyphae are placed in an environment without a carbon source, they will starve. When hyphae are placed in a starvation state for a period of time, and then returned to a normal condition containing a carbon source (for example, soil), the hyphae hunger after and seek for the carbon source and therefore they become capable of growing rapidly. Thus, the technique of placing the Matsutake hyphae in an environment without carbon once to put them in a starvation state is effective for the short-term formation of Shiro that is achieved by rapid growth of Matsutake hyphae.

As described above, the present invention has been achieved by combining the steps 1) and 2), which are not disclosed in any of the references, and the step 3) together. By employing these three steps in combination, it is possible to promote the growth of Matsutake hyphae, thereby forming artificial Shiro in a short period of time. (See the specification of the present invention, page 29, lines 18-22).

Concerning the applied prior art, their broad content has been summarized in the Official Action. It need only be noted here that Holtz et al. add their activator to already partially grown mushroom spawn as mushroom mycelia covered kernels of a member of the wheat family (column 1, lines 35-57) which supports mycelia growth. These are planted for growing mushrooms in a compost bed. This is a far cry from the subject invention where the mycelia have been homogenized, treated with a liquid nutrient medium containing no carbon source, not disclosed in any of the other items of prior art. And were the Holtz nutritional additive is employed in place of or in addition to the additives or supplements employed by the applied primary references, the first two steps of (1) homogenizing the hyphae and

culturing the hyphae in a liquid medium to induce growth and (2) preparing an inoculum in a liquid nutrient medium containing no carbon source would still have not been disclosed in the prior art.

Favorable reconsideration is solicited.

Respectfully submitted,

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